CONSUMPTION OF *IDIOSPERMUM AUSTRALIENSE* SEEDS BY THE MUSKY RAT KANGAROO, *HYPSIPRYMNODON MOSCHATUS* (Marsupialia: Potoroidae). *Memoirs of the Queensland Museum 42(2): 438. 1998:-* Information on the feeding ecology of *Hypsiprymnodon moschatus* Ramsay, 1876, a primitive diurnal marsupial, is scant. Our present knowlege has mainly come through the PhD research of Andrew Dennis (unpbl., James Cook University), carried out on the Atherton Tablelands, NE Queensland.

The current study is based on our daylight observations of Musky Rat Kangaroos (April 16 to May 4, 1997) in the Cooper Ck catchment, Cape Tribulation NP. During this period, Musky Rat Kangaroos were twice observed eating the seeds of *Idiospermum australiense*. Consumption of these seeds causes cattle deaths (Everist, 1981). *Idiospermum australiense* is relatively common in the study site, about 10m from Cooper Ck in an area of lowland complex mesophyll vine forest, and often grows in small stands of 5-10 plants. The ground beneath these plants is littered with seeds of all ages; 100 seeds were counted in the particular stand studied. Other stands occur throughout the surrounding rainforest. The fruit ranges from 80-100mm in diameter. It has a brown pericarp which splits to reveal a seed with 3-6 large cotyledons. April is a month of low fruit abundance in this area; fruiting species include candlenut (*Aleurites moluccana* or *A. excelsa*) and the fig (*Ficus variegata*). During 106 hrs of observation, we recorded 44 instances of feeding at the site. On April 18 at 2:25pm, a Musky Rat Kangaroo was seen to pick up an *Idiospermum* seed with its forelimbs, then chew it for about 30 seconds, before dropping it and hopping away. This was repeated at 3:35pm. The same seed was chewed on both occasions. It appeared to be a fairly old seed with no pericarp. Approximately one fifth of the seed had been removed and characteristic teeth marks were evident.

Idiospermum seeds at several stands were examined to determine the percentage that had been chewed. To establish the age of seeds, we recorded whether or not the pericarp was intact and whether it was fresh or brown (the dark colour is indicative of older seeds). The state of the seed; untouched, chewed, or scratched was also recorded. Freshly chewed seeds are almost white; they darken as they oxidise over a few days (presumably by polyphenol-oxidase activity). We examined 375 seeds and found that 51% were chewed, 40% were untouched, and 9% were scratched. Seeds with only their pericarps chewed were not observed during this study. In most cases the seed had been chewed where the pericarp was already broken. Most chewed seeds had only a small percentage of the cotyledons removed, and these seeds were of all ages. Older seeds were more heavily chewed. The chew marks were similar to those made by the Musky Rat Kangaroo that we had previously observed.

We seeded the stand of *Idiospermum* with 20 *Aleurites moluccana* seeds to see whether *H. moschatus* showed a preference for either of the two species. *A. moluccana* seeds were picked from a fallen branch using gloves to avoid biasing the animal's choice by touching them with bare hands. The seeds were set out at 7:00am and collected at 5:00pm for 5 days. The first day, 10 of the 20 seeds were chewed or removed. None were touched during the following 4 days. The presence of the *A. moluccana* seeds did not seem to deter *H. moschatus* from feeding on the *Idiospermum* seeds. On the third day of seeding, 10% of the *Idiospermum* seeds were freshly chewed (7/70). On the fifth day, 4% (3/72) were freshly chewed . The total percentage chewed rose from 48% before we seeded to 57% on the fifth day. It seems reasonable to suggest that *H. moschatus* were not feeding on *A. moluccanna* seeds in preference to *Idiospermum* seeds.

We also observed *H. moschatus* eating and dispersing the large seeds of the cycad *Lepidozamia hopeii*, another species assumed toxic to most mammals (Everist, 1981). A Musky Rat Kangaroo was observed (May 4) picking up, chewing, and then running off with a *L. hopeii* seed. This occurred 3 times in a 3-hour period. Several of the seeds left on the ground were also chewed. Behaviour similar to this observation had been observed by the landowners on previous occasions (P. Hewitt, pers. comm).

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